BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company to Revise its Electric Marginal Costs, Revenue Allocation and Rate Design. (U39M).	Application 16-06-013 (Filed June 30, 2016)

PACIFIC GAS AND ELECTRIC COMPANY
NOTICE OF *EX PARTE* COMMUNICATION

Pursuant to Rule 8.4 of the Commission's Rules of Practice and Procedure, Pacific Gas and Electric Company (PG&E) hereby gives notice of the following *ex parte* communication. The communication occurred on Tuesday, September 6, 2016, at approximately 10:29 A.M. by electronic mail (e-mail) to the offices of California Public Utilities Commission. The e-mail transmittal and associated attachments are attached to this notice.

Hannah Keller, Rate Case Coordinator, PG&E, initiated the communication with Leuwam Tesfai, Advisor to Commissioner Liane Randolph. Also included on the electronic mail were: Patrick Doherty, Regulatory Analyst, CPUC; Steve Haertle, Principal Case Manager, PG&E; Shirley Woo, Attorney, PG&E; and Gail Slocum, Attorney, PG&E.

Ms. Keller inadvertently copied Ms. Tesfai on a data response meant for Energy Division. The communication included several attachments, each a response to a question from Energy Division.

Respectfully submitted,

    /s/ Erik B. Jacobson
Erik B. Jacobson
Director, Regulatory Relations
Pacific Gas and Electric Company
P.O. Box 770000, Mail
San Francisco, CA 94177
Phone: 415-973-4464
Fax: 415-973-7226
E-mail: EBJ1@pge.com

Dated: September 6, 2016

From: Keller, Hannah
Sent: Tuesday, August 30, 2016 10:29 AM
To: Patrick.Doherty@cpuc.ca.gov
Cc: Haertle, Steve; Woo, Shirley A (Law); Slocum, Gail (LAW); lt3@cpuc.ca.gov
Subject: ED's A.16-06-013 PGE's Response to ED_002-Q49, 50, 51, 53, 55, 79-82

Patrick,

Attached is PG&E's data response to ED's 2nd data request (ED_002) question 49, 50, 51, 53, 55, 79-82 ; for the 2017 General Rate Case Phase II.

Please let me know if you have any issues opening the files. If you have any questions regarding the response, please contact the Case Manager Steve Haertle at 415-973-5603 or via email at SRH1@PGE.com

Hannah Keller
PG&E Regulatory Affairs | Rate Case Coordinator
77 Beale Street | San Francisco, CA 94105 | Rm 978
415-973-6661 | Hxky@pge.com

PACIFIC GAS AND ELECTRIC COMPANY
2017 General Rate Case Phase II
Application 16-06-013
Data Response

PG&E Data Request No.:	ED_002-Q49		
PG&E File Name:	GRC-2017-PhII_DR_ED_002-Q49		
Request Date:	August 11, 2016	Requester DR No.:	002
Date Sent:	August 30, 2016	Requesting Party:	Energy Division
PG&E Witness:	Emily Bartman	Requester:	Patrick Doherty

QUESTION 49

Please describe in detail the proposal referred to in Table 10-6 on page 10-26 of PG&E's Exhibit 1 that states "Add distribution time differentiation to ETOU."

ANSWER 49

PG&E considered proposing to add distribution time differentiation to ETOU, but ultimately decided not to include this proposal in the 2017 GRC Phase II. This proposed rate structure change, "Add distribution time differentiation to ETOU," was inadvertently included in the Table 10-6 on page 10-26 of Exhibit 1.

PG&E Data Request No.:	ED_002-Q50		
PG&E File Name:	GRC-2017-PhII_DR_ED_002-Q50		
Request Date:	August 11, 2016	Requester DR No.:	002
Date Sent:	August 30, 2016	Requesting Party:	Energy Division
PG&E Witness:	Dennis Keane	Requester:	Patrick Doherty

QUESTION 50

Please describe in detail the nature of the fixed costs that appear in column G of Table F-1 on page F-8 of PG&E's Exhibit 2.

ANSWER 50

As described in the report at pp. F-5 – F-6, there are many costs included in PG&E's residential revenue requirement that are not captured by marginal costs, be they marginal customer costs, marginal capacity costs, or marginal energy costs. Consequently, rates set only at marginal cost levels would fall well short of collecting the residential revenue requirement.

Column G of Table F-1 contains all the costs that are not marginal. Detailed descriptions of the distribution and generation cost items that are considered to be "marginal" are contained in PG&E's marginal cost testimony (Exhibit 2). In the case of distribution costs, marginal distribution capacity costs are described in detail in Chapter 6 (where, for example, it is explained why only growth-related investments are included), marginal customer access costs in Chapter 7, and marginal revenue cycle services costs in Chapter 8. In the case of generation costs, the cost items included in marginal generation costs are described in Chapter 2.

For example, as Table F-1 shows, residential marginal costs are estimated to be $1,237 million, compared to the residential distribution revenue requirement of $1,914 million. Similarly, residential generation marginal costs are $1,198, compared to the residential generation revenue requirement of $2,661 million. Finally, there are no marginal costs associated with the public purpose program (PPP) revenue requirement, which is essentially fixed (i.e., does not vary as kWh usage changes, for example) and totals $354 million for residential customers.

Column G, which represents the difference between the residential revenue requirement and the residential marginal costs, thus represents the residual non-marginal costs that must be collected somehow, through some combination of fixed, demand, and energy charges.[1]

---

[1] Currently these additional fixed costs are collected virtually entirely through volumetric charges, even though the costs do not vary with the number of kWh supplied, which results

These residual costs, or additional fixed costs, include all PG&E costs allocated to the residential class that are not marginal in nature, i.e., invariant to changes in the number of customers, kilowatts, or kilowatt-hours served. They are, by definition, fixed in nature, since they do vary with any of these three marginal cost drivers. Thus PG&E has included these non-marginal costs in its fixed cost estimate.

The cost of poles is just one example of a non-marginal cost since pole costs, for the most part, are not included in the estimates of marginal customer, capacity, or energy costs (except in certain instances where a larger pole is required to support a larger conductor when re-conductoring to add distribution capacity, or for building out primary distribution line extensions serving new load.). As noted on page F-5, costs such as for labor, office buildings, interest, and taxes (etc.) are also included in the "additional fixed cost" category.[2]

---

in substantially over-inflated volumetric rates relative to the marginal energy costs of providing service to residential customers.

[2] As footnote 16 indicates, though, a portion of some of these cost items is included in PG&E's marginal cost estimates.

PACIFIC GAS AND ELECTRIC COMPANY
2017 General Rate Case Phase II
Application 16-06-013
Data Response

PG&E Data Request No.:	ED_002-Q51		
PG&E File Name:	GRC-2017-PhII_DR_ED_002-Q51		
Request Date:	August 11, 2016	Requester DR No.:	002
Date Sent:	August 30, 2016	Requesting Party:	Energy Division
PG&E Witness:	Dennis Keane	Requester:	Patrick Doherty

QUESTION 51

Please describe how the amount of customer-related distribution costs in Table F-1 on page F-8 of PG&E's Exhibit 2 was calculated.

ANSWER 51

The customer-related distribution cost figure of $740 million shown in Column B of Table F-1 is the residential marginal customer cost revenue from PG&E's revenue allocation work papers. This in turn is calculated as the product of the unit marginal residential customer cost estimate ($12.98 per customer-month) and the forecasted number of residential customer-months (57,003,455). Table F-2 also shows this calculation.

PACIFIC GAS AND ELECTRIC COMPANY
2017 General Rate Case Phase II
Application 16-06-013
Data Response

PG&E Data Request No.:	ED_002-Q53		
PG&E File Name:	GRC-2017-PhII_DR_ED_002-Q53		
Request Date:	August 11, 2016	Requester DR No.:	002
Date Sent:	August 30, 2016	Requesting Party:	Energy Division
PG&E Witness:	Dennis Keane	Requester:	Patrick Doherty

QUESTION 53

Please confirm that the calculations for columns B and C in Table F-2 on page F-11 of PG&E's Exhibit 2 are based on total residential customers and not solely new customers.

ANSWER 53

Yes, those calculations are based on total residential customers, not solely new customers, as discussed below.

The calculations in Columns B and C show PG&E's estimated residential marginal customer costs, which are composed of (a) revenue cycle services costs and (b) new connection costs:

    (a) Revenue cycle services costs are based on cost of service data pertaining to all residential customers, and not solely new customers.

    (b) PG&E's estimate of new connection costs under the Rental Method are also based on data pertaining to all residential customers, and not solely new customers.

PACIFIC GAS AND ELECTRIC COMPANY
2017 General Rate Case Phase II
Application 16-06-013
Data Response

PG&E Data Request No.:	ED_002-Q55		
PG&E File Name:	GRC-2017-PhII_DR_ED_002-Q55		
Request Date:	August 11, 2016	Requester DR No.:	002
Date Sent:	August 30, 2016	Requesting Party:	Energy Division
PG&E Witness:	Jan Grygier	Requester:	Patrick Doherty

QUESTION 55

Please provide the publically-available inputs for the MEC calculations referred to on page 2-2 of PG&E's Exhibit 2 in the form of an Excel workbook.

ANSWER 55

Publically-available inputs for the MEC calculations referred to on page 2-2 of PG&E's Exhibit 2 were provided on optical media to all requesting parties to this application.

All files related to Chapter 2 of Exhibit 2 are located in the directory Exhibit 2 Workpapers\Chapter 2 Workpapers. Each filename has the prefix 2017GRC_Workpapers_Ch2_. Filename bodies and descriptions are as follows:

Name (after prefix)	Description
MGC_Price_model.xlsb	The main price model, containing both calibration and forecasting data. All other workpapers for this chapter provide inputs to this model.
CPUC_RPSCalculator_v62_DRAFT_GRCPhaseIISettings.xlsm	RPSCalculator Version 6.2 with settings used to generate annual RPS and other generation assumptions for forecast.
NYMEX_Gas_Forewards_20160510.xlsx	Gas forward prices from NYMEX as of May 10, 2016; provides input data for Gas Forecast spreadsheet.
Gas Forecast USEIA May 2015.xlsx	Gas forecast spreadsheet; pulls in various inputs to develop monthly gas price forecast. Note that filename is misleading; contains data as of May 2016.
NEM_CurrentlyInterconnectedDataset_2015-12-31.xlsb	Download of DG PV installations as of December 2015.
Assumptions for public ACC model_DraftUpdate_01_28_2016.xlsx	Assumptions used in public ACC model.

Name (after prefix)	Description
Public ACC_2017 GRC Phase2_2015-2022_8hr-block_May2016_ver7.xlsm	Public ACC model used to calculate annual MGCC
RDW2015_DR_ORA_001_Q02 _Atch02_2024LoadRPSProfiles .xlsx	Input data for 2014 LTPP Track 1A Trajectory scenario. 8760 load and generation profiles are used in 2015 RDW and in this proceeding.
RDW2015_DR_ORA_001_Q02 _Atch03_2024PlexosOutput.xls x	Output data from 2014 LTPP Track 1A Trajectory scenario. Generation profile of DCPP (only) and modeled outages are used in 2015 RDW and here.
RTD_5min_January-April2016_Curtailment.xlsx	Real-Time Dispatch prices in PG&E DLAP during January-April 2016 showing negative prices.

PACIFIC GAS AND ELECTRIC COMPANY
2017 General Rate Case Phase II
Application 16-06-013
Data Response

PG&E Data Request No.:	ED_002-Q78		
PG&E File Name:	GRC-2017-PhII_DR_ED_002-Q78		
Request Date:	August 11, 2016	Requester DR No.:	002
Date Sent:	August 30, 2016	Requesting Party:	Energy Division
PG&E Witness:	Thomas Troup	Requester:	Patrick Doherty

QUESTION 78

For the Rental Method (RM) calculations referred to on page 7-12 of PG&E's Exhibit 2, please explain in detail how the RECC factors for MCAC investments are calculated. For example, how was the 12.55% RECC factor for meters obtained?

ANSWER 78

For each asset class (or composite of asset classes, e.g., services that have separate asset classes for overhead and underground services) where an RECC factor is required, PG&E calculates the factor in a several steps. (RECC factors are calculated in the electronic workpapers supporting Exhibit (PG&E-2), Chapter 13, in the Excel file "1. Financial Factors Model.xlsm".)

First, for an assumed level of capital investment for a particular asset class, PG&E performs yearly revenue requirement (RRQ) calculations over the average life of the asset class with application of a half-year convention for the amortization expense component. For the purposes of the calculations, PG&E assumes a $100,000 investment in year one, but the actual dollar amount does not matter when calculating these factors, as they are independent of the investment amount. The assumed investment amount is for convenience of showing enough digits to see clearly the flow to the factor results stated to multiple decimal places.

For a $100,000 investment in each asset class, PG&E calculates the annual RRQ over the asset class average service life, including calculations for:

- Regulatory (straight-line) amortization using the average life information and the applicable net salvage rates over the lives of the assets, applying the half-year convention.

- California Franchise Tax Board (CFTB) amortization using the applicable CFTB accelerated amortization methodology and prescribed asset lives.

- Federal Income Tax (FIT) amortization using the applicable FIT Modified Accelerated Cost Recovery System amortization and prescribed asset lives.

- Ad valorem (property) taxes.

- Interest expense using PG&E's adopted capital structure and costs of capital.

- Cumulative depreciation, net plant, accumulated deferred FIT, and rate base.

- CFTB taxable income, Federal taxable income, CFTB corporate taxes and Federal income taxes.

- Return on rate base.

- And, with the above, the yearly RRQ over the asset class average life needed for the upfront $100,000 capital investment.

Second, for the each asset class's calculated RRQ for an assumed $100,000 investment, PG&E calculates the present value of the calculated RRQ over the average service life of the asset class, discounting at PG&E's adopted weighted average cost of capital.

Third, to arrive at the RECC factor for an asset class, PG&E takes the present value of the RRQ, and performs the following calculation steps:

- Calculate an annual levelized RRQ amount in current dollars (using the Excel payment function and PG&E's adopted weighted average cost of capital).

- Convert the current dollar levelized annual RRQ in current dollars to a levelized annual RRQ in constant dollars by:

  - Multiplying the current dollar levelized annual RRQ by the series present worth factor for the asset class life. (The current dollar series present worth factor is calculated using the formula for a series present worth factor that incorporates an adjustment for a half year of discounting for consistency with the half-year convention for the timing of the up-front investment.)

  - Dividing the result from the step immediately above by the constant dollar series present worth factor, resulting in the constant dollar levelized annual RRQ. (The constant dollar present worth factor is calculated as the sum of individual annual discount factors with incorporation of annual escalation amounts, with adjustments to be consistent with the half-year convention for the timing of the up-front investment.)

- Calculate the RECC factor by taking the constant dollar levelized annual RRQ and dividing by the assumed level of up-front capital investment of $100,000, expressing the constant dollar levelized annual RRQ as a percentage factor.

Alternatively to the above steps, the present value of RRQ (in current dollars) for an asset class can be converted directly to the constant dollar levelized annual RRQ by dividing by the constant dollar series present worth factor, resulting in the constant dollar levelized annual RRQ. Taking this constant dollar levelized annual RRQ amount and then dividing by the initial assumed amount of up-front investment yields the RECC factor for the asset class. This alternate calculation can serve as a check on the calculation steps detailed above. (Multiplying the current dollar levelized annual RRQ by the current dollar series present worth factor yields the present value of the RRQ that one can use alternatively in the RECC calculation as explained immediately above)

For meters, the calculated RRQ (current dollar) for the asset discounted at PG&E's current adopted cost of capital is a present value of $183,151. Using the Excel payment function with PG&E's cost of capital yields a current dollar levelized annual RRQ of $16,346. Multiplying by the current dollar series present worth factor of 11.2044 and dividing by the constant dollar series present worth factor of 14.5927 results in a

constant dollar levelized annual RRQ amount of $12,551. (Alternatively, dividing the present value of the RRQ in the amount of $183,151 by the constant dollar series present worth factor of 14.5927 likewise results in a constant dollar levelized annual RRQ amount of $12,551.) Finally, dividing the constant dollar levelized annual RRQ by the assumed up-front $100,000 investment results in an RECC factor of 12.55%.

The details of the calculations for the RRQ and RECC factor for meters can be found in the electronic workpapers supporting Exhibit (PG&E-2), Chapter 13, and in particular, in the Excel file "1. Financial Factors Model.xlsm" on worksheet "CALC_ELECTRIC_DISTRIBUTION" starting at Excel Row 969 through Excel Row 1037. The annual RRQ values are in Excel Row 1037 in Excel Columns E through Y; the present value of this RRQ is in Cell K970 (labeled as "NPV RRQ (Mid-Yr Convention)"); the current dollar and constant dollar series present worth factors are in Cell O970 and P970, respectively; the constant dollar levelized annual RRQ is in Cell Q970; and the RECC factor is in Cell R970 (labeled as "Level Annual Fixed Rate (Constant Dollar % — RECC)"). The current dollar series present worth factor is calculated by formula directly in Cell O970, and the constant dollar series present worth factor is calculated on the worksheet "CALC_ESCALATION" in Excel Row 72 for electric distribution plant assets.

Where an RECC factor is needed for a composite of asset classes, as like above for meters, the RECC factors are calculated for each asset class in the composite, and these asset class-level RECC factors are then weighted by gross plant year-end balances, yielding plant-weighted composite RECC factors. Composite RECC factors are calculated in the above-referenced electronic workpapers Excel file on the worksheet "CALC_WTD_RESULTS".

PACIFIC GAS AND ELECTRIC COMPANY
2017 General Rate Case Phase II
Application 16-06-013
Data Response

PG&E Data Request No.:	ED_002-Q79		
PG&E File Name:	GRC-2017-PhII_DR_ED_002-Q79		
Request Date:	August 11, 2016	Requester DR No.:	002
Date Sent:	August 30, 2016	Requesting Party:	Energy Division
PG&E Witness:	Thomas Troup	Requester:	Patrick Doherty

QUESTION 79

For the New Customer Only (NCO) calculations referred to on page 7-13 of PG&E's Exhibit 2, please explain in detail how the PVRR factors are calculated for MCAC investments. For example, how was the PVRR factor of 1.83151 for meters obtained?

ANSWER 79

For each asset class (or composite of asset classes, e.g., services that have separate asset classes for overhead and underground services) where a PVRR factor is required, PG&E calculates the factor in several steps.

First, for an assumed level of capital investment for a particular asset class, PG&E performs yearly revenue requirement (RRQ) calculations over the average life of the asset class with application of a half-year convention for the amortization expense component. For the purposes of these calculations, PG&E assumes a $100,000 investment in year one, but the actual dollar amount does not matter when calculating these factors, as they are independent of the investment amount. The assumed investment amount is for the convenience of showing enough digits to see clearly the flow to the factor results stated to multiple decimal places.

For a $100,000 investment in each asset class, PG&E calculates the annual RRQ over the asset class average service life, including calculations for:

- Regulatory (straight-line) amortization using the average life information and the applicable net salvage rates over the lives of the assets, applying the half-year convention.

- California Franchise Tax Board (CFTB) amortization using the applicable CFTB accelerated amortization methodology and prescribed asset lives.

- Federal Income Tax (FIT) amortization using the applicable FIT Modified Accelerated Cost Recovery System amortization and prescribed asset lives.

- Ad valorem (property) taxes.

- Interest expense using PG&E's adopted capital structure and costs of capital.

- Cumulative depreciation, net plant, accumulated deferred FIT, and rate base.

- CFTB taxable income, Federal taxable income, CFTB corporate taxes and Federal income taxes.

- Return on rate base.

- And, with the above, the yearly RRQ over the asset class average life needed for the upfront $100,000 capital investment.

Second, for the each asset class's calculated RRQ for an assumed $100,000 investment, PG&E calculates the present value of the calculated RRQ over the average service life of the asset class, discounting at PG&E's adopted weighted average cost of capital.

Third, to arrive at the PVRR factor for an asset class, PG&E divides the present value of the RRQ by the assumed level of up-front capital investment of $100,000. For meters, the calculated RRQ for the asset discounted at PG&E's current adopted cost of capital is a present value of $183,151. Dividing that by the up-front $100,000 capital investment used in the RRQ calculation results in a PVRR factor of 1.83151.

The details of the calculations for the RRQ and PVRR factor for meters can be found in the electronic workpapers supporting Exhibit (PG&E-2), Chapter 13, and in particular, in the Excel file "1. Financial Factors Model.xlsm" on worksheet "CALC_ELECTRIC_DISTRIBUTION" starting at Excel Row 969 through Excel Row 1037. The annual RRQ values are in Excel Row 1037 in Excel Columns E through Y; the present value of this revenue requirement is in Cell K970 (labeled as "NPV RRQ (Mid-Yr Convention)"); and the PVRR factor is in Cell L970 (labeled as "NPV RRQ Scalar").

Where a PVRR factor is needed for a composite of asset classes, as like above for meters, the PVRR factors are calculated for each asset class in the composite, and these asset class-level PVRR factors are then weighted by gross plant year-end balances, yielding plant-weighted composite PVRR factors. Composite PVRR factors are calculated in the above-referenced electronic workpapers file on the worksheet "CALC_WTD_RESULTS".

PACIFIC GAS AND ELECTRIC COMPANY
2017 General Rate Case Phase II
Application 16-06-013
Data Response

PG&E Data Request No.:	ED_002-Q80		
PG&E File Name:	GRC-2017-PhII_DR_ED_002-Q80		
Request Date:	August 11, 2016	Requester DR No.:	002
Date Sent:	August 30, 2016	Requesting Party:	Energy Division
PG&E Witness:	Thomas Troup	Requester:	Patrick Doherty

QUESTION 80

Please confirm if the loaders described on lines 18-22 of page 7-13 of PG&E's Exhibit 2 are identical to the "appropriate loaders" added to the RECC factors as referred to on line 27 of page 7-12 of PG&E's Exhibit 2. If they are not identical, how are they different?

ANSWER 80

Yes, the "appropriate loaders" are referenced on lines 18–22 on Page 7-13 of Exhibit (PG&E-2), Chapter 7, are the same as referred to on line 27 of page 7-12 of that exhibit and chapter.

PACIFIC GAS AND ELECTRIC COMPANY
2017 General Rate Case Phase II
Application 16-06-013
Data Response

PG&E Data Request No.:	ED_002-Q81		
PG&E File Name:	GRC-2017-PhII_DR_ED_002-Q81		
Request Date:	August 11, 2016	Requester DR No.:	002
Date Sent:	August 30, 2016	Requesting Party:	Energy Division
PG&E Witness:	Thomas Troup	Requester:	Patrick Doherty

QUESTION 81

For the "new connection forecasts" referred to on lines 25-26 of page 7-17 of PG&E's Exhibit 2, please provide the basis for these forecasts.

ANSWER 81

For PG&E's marginal customer access cost calculations using the NCO method, PG&E uses the forecast of new connections from the workpapers supporting Exhibit (PG&E-4), Chapter 10, "New Business and Work at the Request of Others" in the Company's 2017 GRC Phase I Application, A.15-09-001. In that chapter on pages 17-29 to 17-30, the basis of the new connection forecast is described as follows:

> "The new connects forecast was developed using a proprietary econometric model developed by the Rosen Consulting Group (RCG) using analysis of PG&E historic [new business (NB)] connects data in relation to historic leading economic indicators data….
>
> RCG used a multiple linear regression technique to construct a forecast of NB connects. Forecasts were made for two connect types: residential and non-residential. The four relevant indicator variables used in the forecasting models include: payroll employment growth; unemployment insurance initial claims; residential permits (units); and non-residential permits, excluding alterations (valuation)."

The new connections forecast from PG&E's 2017 GRC Phase 1 Application is provided for residential and non-residential customers. However, for marginal customer access cost purposes, PG&E needs these forecast new connection by customer class. The residential new connection forecast is used directly for the residential class in the marginal customer access costs under the NCO method. As proxies for non-residential new connections by class, PG&E uses recent recorded non-residential new connection counts by class to allocate proportionally the non-residential new connection forecast to the classes used in the marginal customer access cost calculations. This proportional allocation of the non-residential new connection forecast to non-residential classes is shown in the electronic workpapers supporting Exhibit (PG&E-2), Chapter 7, in the Excel file "6. MCAC Main Model.xlsm" on the worksheet "CALC_New_Conn_Forecast_Alloc".

PACIFIC GAS AND ELECTRIC COMPANY
2017 General Rate Case Phase II
Application 16-06-013
Data Response

PG&E Data Request No.:	ED_002-Q82		
PG&E File Name:	GRC-2017-PhII_DR_ED_002-Q82		
Request Date:	August 11, 2016	Requester DR No.:	002
Date Sent:	August 30, 2016	Requesting Party:	Energy Division
PG&E Witness:	Brian Lubeck	Requester:	Patrick Doherty

QUESTION 82

Please provide the basis for the calculations shown in the "2017 Results" column of Table 8-1 on page 8-6 of PG&E's Exhibit 2.

ANSWER 82

Please see the electronic workpaper *5. RCS Model.xlsx* or *CONF_5. RCS Model.xlsx* supporting Exhibit 2 Volume 1 Chapter 8 *Marginal Revenue Cycle Services Costs* for the calculations of Table 8-1.